

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
International Comparison and Consumer	)	
Survey Requirements in the Broadband	)	GN Docket No. 09-47
Data Improvement Act	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51
	)	
Inquiry Concerning the Development of Advanced	)	
Telecommunications Capability to All Americans in a	)	
Reasonable and Timely Fashion and Possible Steps to	)	GN Docket No. 09-137
Accelerate Such Deployment Pursuant to section 706	)	
of the Telecommunications Act.	)	

**COMMENTS OF THE NEW AMERICA FOUNDATION –  
NBP PUBLIC NOTICE #13**

Chieh-yu Li  
James Losey  
Benjamin Lennett  
Open Technology Initiative  
New America Foundation  
1899 L Street, NW  
Washington, DC 20036  
oti@newamerica.net

November 16, 2009

## I. INTRODUCTION

The New America Foundation's Open Technology Initiative (OTI) is pleased to submit these comments regarding the Commission's broadband policy study conducted by the Berkman Center for Internet and Society.<sup>1</sup> OTI applauds the Commission efforts to examine key telecommunication and Internet policies in other advanced nations and believe the draft report provides vital insights into important strategies and policies that can be utilized in the Commission's forthcoming National Broadband Plan. Among the countries the Berkman study points to as an exemplar for the U.S. is Japan, where its policy framework and e-Japan strategies successfully have made it one of the most technologically advanced countries. As the study provides, "Japan has not only the highest percent of fiber penetration, but providers in Japan have also invested in squeezing out the highest possible speeds over DSL and cable (160 Mbps from J:COM, as compared to 50Mbps offered using the same DOCSIS 3.0 technology in the United States, and J:COM's offering is available for about half the price)."<sup>2</sup>

Japan's broadband infrastructure and consumer market appears to have substantially benefited from mandated open access policies to promote extensive competition among Internet Service Providers (ISPs), resulting in higher speeds and lower prices. In this brief comment, OTI

---

<sup>1</sup> *Next Generation Connectivity: A review of broadband Internet transitions and policy from around the world.* The Berkman Center for Internet and Society. October, 2009. P. 11.  
[http://www.fcc.gov/stage/pdf/Berkman\\_Center\\_Broadband\\_Study\\_13Oct09.pdf](http://www.fcc.gov/stage/pdf/Berkman_Center_Broadband_Study_13Oct09.pdf).

<sup>2</sup> *Id* 19.

seeks to supplement the findings of the draft Berkman study and add to the proceeding additional specifics regarding Japan's open access policies as well as other policies that have allowed Japan to become a international broadband leader. These include:

- Open access and interconnection rules for fixed-line broadband services
- Wholesale access and interconnection requirements for mobile broadband operators
- Open access to public and private infrastructures such as conduits and tunnels
- Grant funding for open municipal fiber networks.

OTI believes that it would be beneficial for the Commission to seriously consider these policies as part of developing a national broadband plan.

## **II. DISCUSSION**

### **A. Open Access on Fixed-line Services**

Mandating open access was a key factor in Japan's transition to a becoming a global leader in broadband Internet speeds and affordability.<sup>3</sup> In 2001, Japan was substantially behind other nations in terms of Internet and telecommunication services. The Japanese government attributed the nation's technological deficiency to insufficient network deployment resulting from high telecommunication fees imposed by the market, which at the time was essentially a

---

<sup>3</sup> Masaru Fujimo. Counselor for Communications Policy, Embassy of Japan. "Transmission speeds by Japanese service providers from 1999-2009" (P. 7), "Transmission Speed Global Comparison" (p.8) and "Global Comparison of Internet Charges" (p.11) October, 2009.  
[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/presentation/pdf/091019\\_1.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/presentation/pdf/091019_1.pdf)

monopoly.<sup>4</sup> To reverse the decline, Japan's IT Strategy Headquarters established a series of e-Japan strategies with the intention of transforming Japan into the most advanced IT country by 2005.<sup>5</sup> The Japanese regulatory agency, the Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT), later reformed to the Ministry of Internal Affairs and Communications (MIC), and the Japanese Fair Trade Commission recognized the promotion of competition as a key policy goal and established *Guidelines for Promotion of Competition in the Telecommunications Business Field* based on the *Telecommunication Business Law* and *Antimonopoly Act* in 2001.<sup>6</sup>

Interconnection rules and unbundling regulations were introduced and later expanded to apply DSL services in 2000 and fiber-optic Internet services in 2001. Nippon Telegraph and Telephone (NTT), the largest incumbent in Japan was required to open its last-mile DSL and fiber-optic, circuits, and other facilities to new entrants' for data and voice transmission. The open access rules enabled type II<sup>7</sup> telecom carriers or local exchange carriers to interconnect and access type I telecom carriers' fixed-lines to provide Internet services. The rules stipulated that "Any type I telecommunications carrier shall agree to interconnection of its telecommunications facilities being installed by other telecommunications carriers."<sup>8</sup>

Telecommunication facilities, as defined in the Telecom Business Law, comprise of terminal system transmission line facilities and digital devices installed in the local exchanges

---

<sup>4</sup> E-Japan Strategy: Japan's backwardness in embracing the IT revolution. Jan. 22, 2001, [http://www.kantei.go.jp/foreign/it/network/0122full\\_e.html](http://www.kantei.go.jp/foreign/it/network/0122full_e.html)

<sup>5</sup> E-Japan Strategies include e-Japan Strategy, e-Japan Priority Policy, and e-Japan 2002 Program. These strategies are designated by the IT Strategy Headquarter. [http://www.kantei.go.jp/foreign/it\\_e.html](http://www.kantei.go.jp/foreign/it_e.html)

<sup>6</sup> "Guidelines for Promotion of Competition in the Telecommunication Business Field". I-1: Necessity of the Guideline, established by the MPHPT and the Fair Trade Commission in 2001 English: [http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/Releases/Telecommunications/010914\\_1.html](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Releases/Telecommunications/010914_1.html) Japanese: [http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/pressrelease/japanese/sogo\\_tsusin/010914\\_2a.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/pressrelease/japanese/sogo_tsusin/010914_2a.pdf)

<sup>7</sup> In 1985, the Telecommunications Business Law Article 33 divided telecommunications carriers into two categories - Type I and Type II. Type I carriers offer services on their own telecom line facilities while Type II offers services by leasing telecom line facilities from Type I carriers. This distinction was abolished by the revision of the Telecommunications Business Law in 2003.

<sup>8</sup> Telecommunications Business Law regarding Interconnection Rules, Article 32-35.

that deliver optical or electrical signals, voice and data, and connect Internet services.<sup>9</sup> The law required that telecom carriers not only open their facilities to local exchange carriers, but also set reasonable interconnection charges, tariffs, terms and conditions including technical requirements. Further, telecommunications carriers were prohibited from offering unfavorable terms and are required to follow long-run incremental cost methods established by the MIC for interconnection charges, including historical cost methods for interconnection of copper facilities and forward looking cost methods for interconnection to fiber.<sup>10</sup>

According to Hiroyuki Hishinuma, the director of New Competition Policy from the MIC Telecom Bureau, the interconnection charge for line sharing is relatively low in Japan because it is limited to the total of an additional device and line managing costs, as the cost of the local loop is already paid for by users through a basic telephone charge.<sup>11</sup> In 2009, the interconnection charge for line sharing was on average less than 80 cents (80 Japanese yen) per line, per month and the charge for connecting to the residential loop less than 14 dollars (1,400 Japanese yen) per line, per month. For FTTx services the interconnection charge is approximately 48 dollars (4,800 Japanese yen) per line per month for a single house.<sup>12</sup>

---

<sup>9</sup> Regulations for Enforcement for the Telecommunications Business Law, Article 18.

<sup>10</sup> Yoshihiro Katagiri, Telecommunications Business Department, Telecom Bureau of the MIC “*Interconnection System in Japan (Introduction)*” p.5, 9-10. August 2005.

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/pdf/presentation\\_Interconnection\\_Japan.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/pdf/presentation_Interconnection_Japan.pdf)

<sup>11</sup> Hiroyuki Hishinuma, “*ICT Policy in Japan: Broadband and Mobile*”, Telecommunications Business Department, Telecom Bureau, the MIC. p.7. April, 16, 2009.

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/presentation/pdf/090416\\_1.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/presentation/pdf/090416_1.pdf). See also Masaru Fujino. Counselor for Communications Policy. Embassy of Japan “*National Broadband Policies 1999-2009 in Japan*” Interconnection Charge for DSL and fiber Internet. p.20-21. October, 2009.

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/presentation/pdf/091019\\_1.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/presentation/pdf/091019_1.pdf)

<sup>12</sup> *Id.*

## B. Open Access Requirements for Mobile Broadband Operators

Japan has focused much of its open access policies on addressing the key bottlenecks that are often inherent to telecommunications and continually reassessing where bottlenecks could limit competition and innovation. Thus, in addition to the openness requirements for fixed-line services, the Japanese regulators also requires mobile network operators (MNOs) to open up wireless networks for wholesale access to new entrants and Mobile Virtual Network Operators (MVNOs<sup>13</sup>) in 2007.<sup>14</sup> Based on the *Mobile Business Revitalization Plan*,<sup>15</sup> the MIC released the second revision of *Guidelines concerning Applications of the Telecommunications Business Law and the Radio Law pertaining to MVNO* that requested mobile phone operators to promote cooperation with MVNOs and required unbundles access and interconnection to a mobile operator's network.<sup>16</sup> In the revised *Guidelines*, the MIC required MNOs to provide unbundled service, interconnect MVNOs' chosen equipment, promptly respond to inquiries, and provide services on equal and fair conditions when MVNOs submit applications. MNOs are also required to disclose standard terms and conditions and charges for wholesale access. MNOs may set individual terms and conditions with each MVNO, although any specific rules set by MNOs apply to every applicant. The MIC is authorized to ask MNOs to change their rules concerning wholesale access if the MNOs rules discriminate or prevent MVNOs from legal business

---

<sup>13</sup> The MIC defined Mobile Virtual Network Operator (MVNO) as a telecommunications carrier that provides a wide range of mobile communication services by using the radio network of a mobile network operator. The MIC Presses Release. May 19, 2008.

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/Releases/Telecommunications/news080519\\_3.html](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Releases/Telecommunications/news080519_3.html)  
<sup>14</sup> *Guideline Concerning Applications of the Telecommunications Business Law and the Radio Law pertaining to MVNO* from the MIC. May. 2008. [http://www.soumu.go.jp/menu\\_news/s-news/2008/pdf/080519\\_1\\_bt1.pdf](http://www.soumu.go.jp/menu_news/s-news/2008/pdf/080519_1_bt1.pdf). See also NikkeiNet News. *From 2007, Japanese Mobile Operators are Required to Open Wireless Network*. June 16, 2007. <http://it.nikkei.co.jp/mobile/news/index.aspx?n=AS3S1501I%2015062006>

<sup>15</sup> *Mobile Business Revitalization Plan* by the Japan Ministry of Internal Affairs and Communications. Released on September 21 2007.

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/Releases/Telecommunications/pdf/news070921\\_2\\_ap.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Releases/Telecommunications/pdf/news070921_2_ap.pdf)

<sup>16</sup> *Guidelines of MVNO* p.5-6

operations or the rules are contrary to the public interest.<sup>17</sup> Generally, the connection charge to a MNO is based on the amount of bandwidth usage or length of time and MVNOs can further negotiate the charge and methods beforehand. In addition, the service fee for mobile users can be determined by MVNOs or be jointly negotiated by MVNOs and MNOs.<sup>18</sup>

Before the *Guidelines* were revised, MVNOs were limited to purchasing wholesale capacity to an operator's entire network, and prevented from interconnecting their own equipment. This prevented MVNOs from introducing different wireless services to consumers without the MNOs' permission. After the revision, Japan Communications Inc. (JCI) emerged as a mobile virtual network enabler (MVNE), offering wireless data transmission services to other MVNOs through leasing access to certain segments of a mobile operator's network and interconnecting their own equipment.<sup>19</sup> Among the recent outcomes of the new policy is a partnership between Hewlett Packard (HP) and JCI. HP is planning to sell laptops, netbooks, and touchscreen tablets with 100 minutes of free airtime and a built-in, pay-as-you-go wireless system.<sup>20</sup> HP is also planning to provide wireless applications and services via smart phones and web-connected digital cameras.<sup>21</sup>

### C. Openness of Public Infrastructure for Broadband Deployment

The *Guidelines for Promotion of Competition in the Telecommunication Business Field* included another important regulation to require utility companies, railway companies, and

---

<sup>17</sup> *Id.* p.6-7

<sup>18</sup> *Id.* p.7-8

<sup>19</sup> Japan Communications Inc. Corporate Information: [http://www.j-com.co.jp/corp/profile\\_q1.html](http://www.j-com.co.jp/corp/profile_q1.html) (translated). <http://www.j-com.co.jp/en/biz/infinitycare.html> Oct. 23, 2009.

<sup>20</sup> Kenji Hall, "HP Shakes Up Japan's Wireless Market," *Business Week*, August 6, 2009. [http://www.businessweek.com/globalbiz/content/aug2009/gb2009086\\_649413.htm](http://www.businessweek.com/globalbiz/content/aug2009/gb2009086_649413.htm)

<sup>21</sup> Kenji Hall, "HP Shakes Up Japan's Wireless Market," *Nikkei Business Online*, August 6, 2009. (translated) [http://business.nikkeibp.co.jp/article/world/20090817/202606/http://www.businessweek.com/globalbiz/content/aug2009/gb2009086\\_649413.htm](http://business.nikkeibp.co.jp/article/world/20090817/202606/http://www.businessweek.com/globalbiz/content/aug2009/gb2009086_649413.htm)

telecommunication carriers to provide open access to both public and private utility poles, ducts, tunnels, conduit, and other facilities for the deployment of broadband infrastructure.<sup>22</sup> It also focused on simplification of the application process for companies to access facilities and public rights of way.<sup>23</sup> According to Ministry of Land, Infrastructure, Transport and Tourism, the charge for deploying fiber Internet in public infrastructures is in general 16 Japanese yen (estimated \$0.018)<sup>24</sup> per cable/fiber line, per meter, per year. However, the charge is 11 Japanese yen (estimated \$0.012)<sup>24</sup> in embankments or places where it is easier to deploy wireline infrastructure.<sup>25</sup>

#### **D. Open Public Fiber Networks in Rural Areas**

The e-Japan Strategy also recognized the importance of closing digital divide between rural and urban areas as important elements for technological advancement. Closing the rural digital divide was first addressed in 1998 when the MIC established “Local Information Exchange Infrastructure Preparation Program,”<sup>26</sup> providing funding for local governments to develop public broadband networks in 1998. In 2002, the MIC initiated “Open Access of Public Fiber Networks” to encourage local governments to open up public fiber networks to private telecommunication carriers. The programs sought to promote universal broadband services and

---

<sup>22</sup> II-2, Section pertaining to the Leasing of Poles, Ducts, Conduits, and related facilities, *Guidelines for Promotion of Competition in the Telecommunication Business Field*. Established by the MPHPT and the Fair Trade Commission in 2001 English:

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/Releases/Telecommunications/010914\\_1.html](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Releases/Telecommunications/010914_1.html) Japanese:  
[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/pressrelease/japanese/sogo\\_tsusin/010914\\_2a.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/pressrelease/japanese/sogo_tsusin/010914_2a.pdf)

<sup>23</sup> Article 1, basic concept of *Guidelines for Use of Poles, Ducts, Conduits and Similar Facilities Owned by Public Utilities*. Introduced by the MIC in 2001 and amended last in 2007.

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/Resources/Manual/Guidelines/Public\\_Uilities.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Resources/Manual/Guidelines/Public_Uilities.pdf)

<sup>24</sup> These values are based on the exchange rate for Nov 8, 2009 : \$1US=89.13 yen

<http://finance.yahoo.com/currency-converter/#from=JPY;to=USD;amt=11>.

<sup>25</sup> Charge of deploying wirelines in public infrastructure established by the Ministry of Land, Infrastructure, Transport and Tourism. October 19, 2009. (translated) <http://www.mlit.go.jp/sogoseisaku/region/fiber/index.html>  
<http://www.mlit.go.jp/sogoseisaku/region/fiber/data/buntan.pdf>

<sup>26</sup> Public Information and Communications Infrastructure Development Policy 2009.(translated) p.4  
[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/top/tiiki\\_kosin.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/top/tiiki_kosin.pdf)



accelerate broadband deployment in rural areas, towns, villages, special wards and islands with lower population densities.<sup>27</sup>

The MIC program provided for one-third of the necessary expenses to local governments to build a public fiber network with the requirement that the network be open to private telecommunication sectors and non-profit organizations. As shown in Figure 1, these public fiber networks connect hospitals, schools, stations, health centers, libraries, town offices, or community centers. Through promoting an open network, the program allowed private sectors such as cable TV providers, high-speed and ultra-high speed Internet providers and non-profit organizations to utilize the public dark fiber to provide service to the surrounding households. MIC funding applied to the deployment of fiber, wireless Internet equipment, electronic optical converters and amplifiers, and other networking equipment.<sup>28</sup>

---

<sup>27</sup> “Open access of Local Public Fiber Network” in the Local Information and Communication Development Policy 2006, established by the MIC. [http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/top/tiiki\\_kosin/pdf/01\\_10.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/top/tiiki_kosin/pdf/01_10.pdf)

<sup>28</sup> “Open access of Local Public Fiber Network” by the MIC Telecommunications in Kinki Area. Viewed on Oct. 20, 2009 <http://warp.ndl.go.jp/cgi-bin/netwp/BNWPLinkChk2.cgi?fl=www.ktab.go.jp&mt=000000001607&cl=00000000000012757&ln=http%3A%2F%2Fwww.ktab.go.jp%2Fpolicy%2Fkouryuu.htm>  
Announcement of implementation of “Open access of Local Public Fiber Network” by the MIC Telecommunications in Tohoku Area October-December 2002. Viewed on Oct. 20, 2009. <http://www.soumu.go.jp/soutsu/tohoku/hodo/h1410-12/1001b4202.html>

図表 地域情報交流基盤整備モデル事業（加入者系光ファイバ網整備）の概要

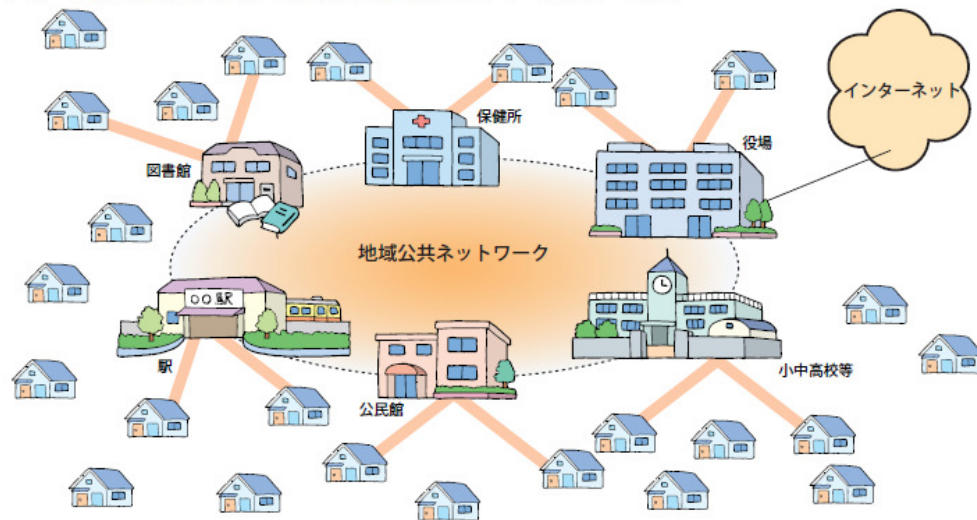


Figure 1. Image of Local Information Exchange Infrastructure Preparation Program—Fiber Deployment. Community Public intranet is connected among library, station, community center, local government office, and schools. Opening the intranet up to private sectors and non-profit organizations allows the infrastructure to expand to connect individual households.<sup>29</sup>

According to the 2008 MIC Survey of Fiber Deployment in Rural Areas, 98.6% households in rural areas have broadband Internet access. 756 of local governments (41%) have built local fiber network totaling 17.84 million miles. Among this number, 5.5 million miles were opened up to commercial and non-profit providers and 51 % or 2.81 million miles, have been interconnected to private carriers.<sup>30</sup> By 2005, 23 local governments have received funding from the MIC program and additionally another 74 municipal networks have been opened up to private telecom providers and non-profit organizations.<sup>27</sup>

After the *Program* was abolished in 2005, the Japanese government in 2006 established the “Grant-in-Aid Program” to spur deployment in areas where broadband access is

<sup>29</sup> The figure is adopted from the MIC White Paper 2002, chapter 3 Trend of Information and Telecommunication Policy. p.233. <http://www.soumu.go.jp/johotsusintokei/whitepaper/ja/h14/pdf/E3030000.pdf>

<sup>30</sup> *The 2008 MIC Survey of Fiber Deployment in Rural Area by Local Government*. Jan. 2009. P.2 [http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/pdf/broadband\\_0126.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/pdf/broadband_0126.pdf)

unavailable.<sup>31</sup> In order to support these areas with disadvantageous conditions, the Japanese government has planned to fund local governments for establishing broadband infrastructure until 2010. The grants will be provided to local governments to build an information and communications infrastructure including ADSL, FTTH, cable services, FWA, internet via satellite etc. in order to bridge the digital divide.<sup>32</sup> Cities, towns, and villages falling in areas under disadvantageous conditions receive grant funding for up to one-third of the necessary expenses and non-profits seeking to deploy broadband services can receive up to one-fourth in grant funding.<sup>33</sup> The MIC program budget for 2006 was \$94 million. In 2008, the budget was increased twofold to \$190 million.<sup>34</sup>

### III. CONCLUSION

The mandate of interconnection rules, unbundling regulations and related policies has transformed Japan into an international broadband leader. As the Berkman study concludes, “Contrary to perceptions in the United States, there is extensive evidence to support the position, adopted almost universally by other advanced economies, that open access policies, where undertaken with serious regulatory engagement, contributed to broadband penetration, capacity, and affordability in the first generation of broadband.”<sup>35</sup> With the success of these policies in nations such as Japan, the FCC should begin to reassess its current policy framework and consider policies that address bottlenecks to robust competition in the U.S. broadband market.

---

<sup>31</sup> Masaru Fujino, Counselor for Communications Policy, Embassy of Japan “*National Broadband Policies 1999-2009 in Japan*” Interconnection Charge for DSL and fiber Internet, P. 28-29. October, 2009.

[http://www.soumu.go.jp/main\\_sosiki/joho\\_tsusin/eng/presentation/pdf/091019\\_1.pdf](http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/presentation/pdf/091019_1.pdf)

<sup>32</sup> *Id.* P.30

<sup>33</sup> *Id.* P.30

<sup>34</sup> *Id.* P.30

<sup>35</sup> Berkman, p. 75.

Beyond open access policies, Japan's grant program for rural local governments could also serve as useful tool to address our nation's rural broadband challenges.

Respectfully Submitted,

Chiehyu Li  
James Losey  
Benjamin Lennett  
Open Technology Initiative  
New America Foundation  
1899 L Street, NW  
Washington, DC 20036  
oti@newamerica.net

November 16, 2009